REMARKS

The Office rejects claims 1-4 in the subject application. Claims 1-4 (1 independent claims; 4 total claims) remain pending in the application.

Reconsideration of this application is respectfully requested.

If the arguments in this Response do not overcome all pending rejections, Applicant requests an Examiner Interview with Applicant's attorney listed below.

35 U.S.C. §102 REJECTIONS

The Examiner rejects claims 1 and 2 under 35 U.S.C. §102(e) as allegedly being anticipated by a newly cited reference Takano (U.S. Patent No. 6,114,839, issued September 5, 2000, assignee is Hitachi Koki Co., Ltd.). Applicant respectfully traverses the rejection.

Takano discloses a battery charging apparatus with a battery package 2, a temperature detection circuit 90, and a microprocessor 50. Microprocessor 50 sets a predetermined initial value as one-sampling-interval-prior value V_{1-1} and a predetermined value $\Delta V1$ to be compared with the sampled temperature detection signal Vin. Microprocessor 50 obtains a difference ΔV between the temperature detection signal Vin and the initial value of the one-interval-prior voltage V_{1-1}.[1]

Microprocessor 50 compares the difference ΔV with the predetermined value $\Delta V1$. If the difference ΔV is equal to or higher than the predetermined value $\Delta V1$, microprocessor 50 informs the operator of the error condition and controls a switching circuit 20 to stop charging. Otherwise, if the difference ΔV is lower than the predetermined value $\Delta V1$, microprocessor 50 stores the detection voltage Vin as the one-sampling-interval-prior voltage V_{1-1} (so as to be used in the next processing).[2] Temperature detection circuit 90 supplies the temperature detection signal Vin to an A/D converter 55 in accordance with the temperature of batteries 2e.[3]

In other words, microprocessor 50 controls switching circuit 20 to stop charging secondary batteries 2e based on the temperature detection signal Vin supplied to microprocessor 50 (when an error condition (or battery leakage) occurs). **As such, the**

[1] Takano, column 4, lines 37-49.
[2] Takano, column 4, lines 50-67.

PAGE 3/5 * RCVD AT 6/5/2006 5:55:37 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/14 * DNIS:2738300 * CSID:602 382 6070 * DURATION (mm-ss):01-38

temperature detection signal Vin is determined in accordance with the temperature of secondary batteries 2e. Thus, the detection of error condition in Takano is in accordance with the detection of the temperature of secondary batteries 2e.

In Figure 6, Takano discloses a structure of a battery charging apparatus that is substantially the same as that in Figure 1 (discussed above). The differences in Figure 6 are the addition of a switch 94 and an output port 58.[4] Switch 94 is turned off by microprocessor 50 to stop supplying power to a thermistor 2a when microprocessor 50 detects the error condition due to voltage leakage.[5] **Significantly, "microprocessor 50 detects the error condition due to voltage leakage from the positive terminal of the battery 2e to the terminal 2d through the leaked electrolyte from the battery 2e due to charging".[6] Indeed, Takano mentions that "if there is leakage from battery 2e and there is [a] short between the terminals 2b and 2d, the voltage of the terminal 2e is not zero volts". Accordingly, even the mention of a short in Takano is only with reference to the detection of the voltage of terminal 2e (but not the impedance or resistance as recited in claim 1).** Microprocessor 50 detects the voltage V2d at terminal 2d using battery temperature detection circuit 90 and compares the voltage V2d with a predetermined value V4. If the voltage V2d at terminal 2d is equal to or higher than the predetermined value V4, microprocessor 50 informs the operator of the error condition (i.e., there is leakage of electrolyte from batteries 2e).[7]

Thus, Takano fails to teach, advise, or suggest "the liquid detection section controls the control section based on an impedance or resistance value detected" as recited in claim 1 (and claim 2, which depends from claim 1) (emphasis added). Rather, Takano discloses detecting an error condition based on the temperature of secondary batteries 2e or based on voltage leakage from the positive terminal of battery 2e to terminal 2d (through the leaked electrolyte).

Therefore, Takano fails to teach, advise, or suggest one or more claimed elements, so that claims 1 and 2 are patentable over this reference.

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[3] Takano, column 3, lines 46-58.
[4] Takano, column 7, lines 59-65.
[5] Takano, column 8, lines 1-6.
[6] Takano, column 8, lines 1-5.
[7] Takano, column 8, lines 34-50.

PAGE 4/5 * RCVD AT 6/5/2006 5:55:37 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/14 * DNIS:2738300 * CSID:602 382 6070 * DURATION (mm-ss):01-38

35 U.S.C. §103 REJECTIONS

The Examiner also rejects claims 3 and 4 under 35 U.S.C. §103(a) as allegedly being unpatentable over Takano in view of a previously cited reference Darmawaskita (U.S. Patent No. 6,184,659, issued February 6, 2001, assignee is Microchip Technology). Applicant respectfully traverses the rejection.

Based on the above arguments in connection with the Takano reference and claim 1, claims 3 and 4 (which variously depend from claim 1) are also patentable for the same reasons.

Thus, Takano in view of Darmawaskita fails to teach, advise, or suggest one or more of the claimed limitations, so that claims 3 and 4 are patentable over these references.

CONCLUSION

Thus, the Applicant respectfully submits that the present application is in condition for allowance. Reconsideration of the application is thus requested. Applicant invites the Office to telephone the undersigned if he or she has any questions whatsoever regarding this Response or the present application in general.

Respectfully submitted,

By: 6-5-06

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PAGE 5/5 * RCVD AT 6/5/2006 5:55:37 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/14 * DNIS:2738300 * CSID:602 382 6070 * DURATION (mm-ss):01-38 PAGE .05 **